



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,531	11/06/2001	Kevin B. Todd	DKT00151	9261

7590 01/15/2004

BORGWARNER INC.  
POWERTRAIN TECHNICAL CENTER  
3800 AUTOMATION AVENUE  
SUITE 100  
AUBURN HILLS, MI 48326

EXAMINER
----------

MCANULTY, TIMOTHY P

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/993,531

Applicant(s)

TODD, KEVIN B.

Examiner

Timothy P McAnulty

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The replacement drawings were received on 07 November 2003. These drawings are approved.

### *Claim Rejections - 35 USC § 102*

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-8, 10-18, and 20-28 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 4,526,558 to Durham (Durham '558).

Durham '558 discloses in the figure a chain and sprocket drive system comprising a chain and a generally circular sprocket 1 having a plurality of teeth on a periphery thereof and having roots located between adjacent teeth wherein the roots of said sprocket include at least three different root radii as measured from the rotational center of the sprocket.

Regarding claims 2, 4-7, 12- 15, 21-28 there is reason to believe, based on the similarity of material and structure, that the functional limitations of tensions imparted to the chain by the sprocket may be an inherent characteristic of the reference set forth above. [W]here the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon. *In re Best*, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977). Accordingly, the burden is placed upon the applicant to prove that those limitations are not an inherent characteristic of the reference.

Art Unit: 3682

4. Claims 1-8,10-18,20-29, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Ledvina et al.

Ledvina et al. discloses in figure 3, a chain and sprocket drive system comprising a chain and a generally circular sprocket having a plurality of teeth on a periphery thereof and having roots located between adjacent teeth wherein the roots of said sprocket include at least three different root radii as measured from the rotational center of the sprocket.

Regarding claims 29 and 31, Ledvina et al. further discloses in lines 64-66 of column 4, said chain and sprocket drive system used as a commercial engine timing drive.

Regarding claims 2,4-7,12-15,21-28, and 31 there is reason to believe, based on the similarity of material and structure, that the functional limitations of tensions imparted to the chain by the sprocket may be an inherent characteristic of the reference set forth above. [W]here the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon. *In re Best*, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977). Accordingly, the burden is placed upon the applicant to prove that those limitations are not an inherent characteristic of the reference.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Durham '558.

Art Unit: 3682

Durham '558 discloses the basic apparatus as previously cited but does not specifically disclose said at least three root radii are arranged in a pattern which repeats four times around said periphery. However, the pattern is merely a matter of engineering design choice and the level of skill of one of ordinary skill in the art would produce a similar optimization, especially absent any evidence to the contrary, i.e. unexpected results.

7. Claims 9, 19, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledvina et al.

Ledvina et al. discloses the basic apparatus as previously cited but does not specifically disclose said at least three root radii are arranged in a pattern which repeats four times around said periphery. However, the pattern is merely a matter of engineering design choice and the level of skill of one of ordinary skill in the art would produce a similar optimization, especially absent any evidence to the contrary, i.e. unexpected results.

#### ***Response to Arguments***

8. Applicant's arguments, with respect to the 35 USC § 112 rejections have been fully considered and are persuasive. It is accepted that the pattern of root radii arranged around the sprocket does not need to exactly repeat four times to "substantially repeat four times." The pattern can actually repeat less than or greater than four times with the pattern started but not completed on any leftover root radii of the sprocket.

9. Applicant's arguments filed 07 November 2003 have been fully considered but they are not persuasive. Figures 5-7 of the instant application compare an embodiment of the present invention to specific examples of random sprockets and are not necessarily indicative data comparing an embodiment of the present invention to all random sprockets. Applicant merely

Art Unit: 3682

shows that specific random sprockets do not reduce tension as well as the embodiment of the present invention; thus has not specifically addressed why the respective sprockets disclosed in Durhnam '558 and Ledvina et al. do not similarly reduce tension. Where it has been shown by way of an example that specific structures within a group possess certain characteristics is not conclusive evidence that all structures falling within said group possess those same characteristics. Mere inclusion of an embodiment within said group does not indicate that embodiment possesses the characteristics of the comparative example. Therefore, the applicant has not overcome the burden to prove that the tension reducing limitations are not an inherent characteristic of the sprocket disclosed by either Durhnam '558 or Ledvina et al.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Art Unit: 3682

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P McAnulty whose telephone number is 703.308.8684. The examiner can normally be reached on Monday-Friday (7:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on 703.308.3668. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.

tpm   
13 January 2004

  
1/14/04  
DAVID A. BUCCI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600